

CLAIMS

What is claimed:

1. An apparatus for a fan motor comprising:
 - a base;
 - a cylindrically-shaped bearing housing integrally formed from the base;
 - a pair of bearings set in an interior of the bearing housing;
 - a rotational shaft supported by the pair of bearings;
 - a shield part integrally formed on the bearing housing at an end opposite the base and which extends in a radial direction towards the rotational shaft; and
 - a retainer cap set through an aperture in the base.
2. The apparatus according to claim 1, further comprising:
 - a stator fixed to an outer periphery of the bearing housing;
 - a rotor fixed to the rotational shaft and positioned to face the stator;and
 - an impeller fixed to the rotational shaft.
3. The apparatus according to claim 1, further comprising:
 - a spacer, cylindrically shaped, set in the interior of the bearing housing between the pair of bearings.
4. The apparatus according to claim 3, wherein the spacer further comprises at least one oil groove.
5. The apparatus according to claim 1, further comprising:
 - a coil spring interposed between the rotational shaft and the retainer cap.

6. The apparatus according to claim 1, wherein the retainer cap further comprises:

at least one engagement claw for snapping onto the base.

7. The apparatus according to claim 5, further comprising:
a slide member interposed between the coil spring and the rotational shaft.

8. The apparatus according to claim 1, wherein an end of the rotational shaft towards the base is spherically shaped.

9. The apparatus according to claim 1, further comprising:
a hub, to which the rotational shaft is attached, having a cylindrical part which is inserted into an aperture in the shield part,
wherein a clearance gap between the cylindrical part and the shield part is in a labyrinthine shape.

10. The apparatus according to claim 1, wherein the interior of the bearing housing is shielded by the shield part and the retainer cap.

11. The apparatus according to claim 1, wherein the pair of bearings are retained in the bearing housing by contact with the shield part and retainer cap.

12. The apparatus according to claim 1, wherein one bearing of the pair of bearings is one of either a shielded ball bearing and an unshielded ball bearing.

13. The apparatus according to claim 1, wherein one bearing of the pair of bearings is a sleeve bearing.

14. The apparatus according to claim 13, wherein the sleeve bearing further comprises:

one of a chamfer or a stage formed on an edge of the sleeve bearing.

15. The apparatus according to claim 2, further comprising:

a magnet of the rotor having a central part offset from a central part of a core of the stator,

wherein the rotor is attracted in a direction away from the base.

16. The apparatus according to claim 2, further comprising:

a magnet of the rotor having a central part offset from a central part of a core of the stator,

wherein the rotor is attracted in a direction towards the base.

17. An apparatus for a fan motor, comprising:

a bearing housing, having a hollow interior and a first and a second open end;

a shield part integrally formed on the first end of the bearing housing and which extends towards the interior of the bearing housing; and

a retainer cap that fits onto the second end of the bearing housing,

wherein the interior of the bearing housing is thus shielded by the shield part and the retainer cap.

18. The apparatus according to claim 17, further comprising:

at least one bearing set in the interior of the bearing housing,

wherein the at least one bearing is retained in the bearing housing by contact with at least one of the shield part and the retainer cap.

19. The apparatus according to claim 17, further comprising:
a base, from which the bearing housing is integrally formed.
20. The apparatus according to claim 18, further comprising:
a rotational shaft, supported by the at least one bearing;
a stator fixed to the an outer periphery of the bearing housing;
a rotor fixed to the rotational shaft and positioned to face the stator;

and

an impeller fixed to the rotational shaft.
